

Dear Mr. Berry:

Thank you for your presentation before the Mississippi River Commission during the public meeting held in Morgan City, Louisiana, on August 22, 2003. In your statement you discussed several items of concern to your community.

As you noted in your comments regarding Atchafalaya Bay, Grand Lake, and Six Mile Lake, the Corps is continually and closely monitoring the sediment issue. The Wax Lake Outlet Weir and connecting levees were completed in 1988. The weir was modified in 1994 and removed in 1995. The connecting levees were also modified in 1994 and essentially removed in 1995, although remnants of the levees may still remain in some locations. Cross-section surveys taken in Grand Lake, Six Mile Lake, and the Wax Lake Outlet in 1997 show the cross-sectional area is, on average, larger than the area of cross-sections surveyed in 1984-1987. Flow measurements taken in the Wax Lake Outlet at Calumet from 1997-2002 show that the Wax Lake Outlet has conveyed, on average, 42 percent of the flow in the two outlets. During the period 1984-1987, the Wax Lake Outlet conveyed, on average, 41 percent of the flow in the two outlets. Based on this information, the Wax Lake Outlet water and sediment-carrying capability today is similar to its capability before the weir was constructed.

The floodwalls at Morgan City are currently of sufficient height to safely pass the project flood. The U.S. Army Corps of Engineers is working to ensure that the community of Morgan City has flood protection with river conditions projected 50 years into the future. In December 2003, the New Orleans District is scheduled to submit a draft reevaluation report on the lower Atchafalaya Basin for Corps review. The report will

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discuss possible alternatives regarding changes in water levels in the Morgan City area and the area east of Morgan City.

In an effort to better understand and develop solutions to fluff, at the request of the Morgan City Harbor and terminal District, the New Orleans District and the Engineer Research and Development Center (ERDC) began a bar channel fluff study in May 2001. Fluff is formed in the Atchafalaya Bar channel when fine-grained silt and clay flocculants are deposited into the

channel. We are unable to address the specific origin of the sediment (Mississippi River versus Red River). The study design was revised to include simulating deepening of the channel by constructing additional advanced maintenance test sections and moving the disposal of dredged material to the west of the navigation channel.

Between August 2002 and February 2003, the bar channel was dredged to the regularly dredged depth of -24 feet mean low gulf (mlg) (-20 feet project depth + 2 feet overdepth + 2 feet advanced maintenance) with five/one-mile reaches dredged to -28 feet mlg (these reaches include an additional 4 feet advanced maintenance and are referred to as "test sections"). The purpose of the test sections was to determine if the fluff material would sink down into the test sections, which would provide a channel at project depth without fluff. Also, dredged material was placed in a disposal area on the west side of the channel instead of the regularly used disposal area on the east side of the channel to investigate the possibility of material moving from the disposal area back into the channel. Dredging was completed in February 2003 and data collection was completed in March 2003. The ERDC briefed the Corps staff, the Port of Morgan City, and the Atchafalaya River Coalition in June 2003.

In May 2001, the New Orleans District and ERDC initiated a study on fluff. The completion of the study was delayed due to storm events that occurred in September and October 2002. Data collection was completed in March 2003. Four main questions were investigated in the study. The questions and answers are as follows:

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(1) Does moving the disposal area to the west improve channel operability? With the disposal area on the west side of channel sediment, runback was reduced.

(2) Does deepening the channel improve channel operability? Test sections revealed that deepening the channel extended the period before new shoal was established; however, this period was only for a few weeks or months, not long enough to improve channel operability.

(3) How are density of fluff and predicted navigable depth to be determined? In some instances fluff densities measured during the study are considered bed (bottom) in European Ports where density is used to determine navigable depth. As indicated in the ERDC fluff study, navigable depth criterion is based on site-specific information about vessels navigating through the shoal material. Investigations to date have not focused on vessel movement through the fluff material in the Atchafalaya channel. A variety of vessels with different draft requirements and different intake types utilize the navigation channel. The Morgan City Harbor and Terminal District has indicated that Kort nozzle intakes are impacted by fluff and that the engine cooling system is significantly disrupted when fluff enters the system. In some cases, water intakes can be modified to reduce problems with the Kort nozzle system. In the Calcasieu River, fluff is found in the most gulfward reach of the navigation channel. In general, vessels utilizing the Calcasieu River channel plow through the fluff material.

(4) Will other alternatives, possibly structural, improve channel operability? Structural alternatives may be of some value by either increasing flow or by reducing transport of sediments into the channel via the Atchafalaya Bay. Possible structural alternatives include rebuilding Point au Fer Reef to reduce sediment input from the bay or building jetties along the bar channel in an effort to increase velocity of flow and keep sediments from dropping out of suspension in the navigation

The Corps continues to search for means to improve channel operability. The ERDC study did investigate the process by which fluff occurs in the channel and other possible alternatives that were not considered previously. However, the

study did not identify a final solution to the fluff situation. In June 2003, ERDC personnel presented the results of the study to your group and members of the Atchafalaya River Coalition. Copies of the final draft study report were forwarded to interested parties. When funding becomes available, the New Orleans District will pursue the investigation of these additional alternatives.

Recommendations concerning future floodproofing of the riverfront businesses are included in the Lower Atchafalaya Basin Reevaluation Study Report. The draft of this report is being reviewed. The report contains recommendations for modifications of pertinent features of the existing Atchafalaya Basin project for the continuation of flood control, as well as consideration of flood protection of the riverfront businesses that may be economically protected as part of the overall Mississippi River and Tributaries project.

Regarding the diversion of more water through the Old River Complex, one of the alternatives that the ongoing Louisiana Coastal Area (LCA) study is exploring is the feasibility of revising the daily operation of the Old River Control complex to accomplish LCA goals and objectives. With its long involvement in multi-use project analysis, the Corps is cognizant of the need to examine and evaluate the effects on all water resources activities that would result from modification to the established flow distribution.

Regarding the relationship between the Mississippi River and the Atchafalaya River, the stability of the system has been debated for some time. Trends are apparent in the specific gage records maintained by the Vicksburg and New Orleans Districts. The specific gage record on the Atchafalaya River at Simmesport, Louisiana, has been stable since 1983, but overall, for a wide range of flows, stages at Simmesport are now some 10 to 12 feet lower than they were in 1950. There is concern that if trends on the Mississippi River continue, as the specific gage records indicate, higher-and-higher stages will occur for the same flow. The 1997 flood on the Mississippi River produced the record high stage at Red River Landing, which is located downstream from Old River. This record stage occurred even though the 1997

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flood ranks as being only the fifth largest flood discharge experienced at Red River Landing.

The New Orleans and Vicksburg Districts have begun a joint effort to quantify the changes that have taken place along the lower Red River and upper Atchafalaya River and identify the causes. This will allow an evaluation of possible solutions, including the use of structures to retain higher water levels

in the upper Atchafalaya and lower Red Rivers, as well as increasing the supply of freshwater to the Atchafalaya Basin Floodway back swamps south of US Highway 190.

Regarding Berwick Lock and the Calumet Floodgates on the west side of the river, these structures have passed inspection as part of the Dam Safety program and mandatory requirements the Corps has for investigating fracture-critical members of hydraulic steel structures. All Corps structures have been evaluated, and no significant problems or concerns have been noted. The two structures listed above will function as designed and should not be adversely impacted by a flood or hurricane.

The Commission appreciates receiving your comments and will be pleased to hear from you at our future public meetings.

Sincerely,

Don T. Riley
Brigadier General, U.S. Army
President Designee, Mississippi
River Commission